

CLAIMS

1. A photocurable resin composition for forming an optical waveguide, the composition comprising:

- (A) a carboxy-containing unsaturated polyurethane resin obtained
5 by reacting a polyisocyanate compound (a), a carboxy-containing polyol (b) and a hydroxy-containing unsaturated compound (c); and
(B) a solvent.

2. The photocurable resin composition according to claim 1, wherein the polyisocyanate compound (a) is an aromatic
10 diisocyanate.

3. The photocurable resin composition according to claim 1, wherein the hydroxy-containing unsaturated compound (c) is an unsaturated compound (c-1) having one hydroxy group and one unsaturated group per molecule.

15 4. The photocurable resin composition according to claim 1, wherein the hydroxy-containing unsaturated compound (c) is an unsaturated compound (c-2) having one hydroxy group and at least two unsaturated groups per molecule.

20 5. The photocurable resin composition according to claim 1, wherein the hydroxy-containing unsaturated compound (c) is an unsaturated compound (c-3) having at least two hydroxy groups and one unsaturated group per molecule.

25 6. The photocurable resin composition according to claim 1, wherein the hydroxy-containing unsaturated compound (c) is an unsaturated compound (c-4) having at least two hydroxy groups and at least two unsaturated groups per molecule.

7. The photocurable resin composition according to claim 1, wherein the carboxy-containing unsaturated polyurethane resin (A) is a resin obtained by reacting a polyisocyanate
30 compound (a), a carboxy-containing polyol (b), a hydroxy-containing unsaturated compound (c), and a polyol (d) other than the polyol (b).

8. The photocurable resin composition according to claim 7, wherein the polyol (d) is an aromatic polyol.

35 9. The photocurable resin composition according to

claim 1, further comprising a radical photopolymerization initiator.

10. A photocurable dry film for forming an optical waveguide, which is formed using the photocurable resin
5 composition according to claim 1.

11. The photocurable dry film according to claim 10, which has a softening temperature within a range of 0°C to 300°C.

12. An optical waveguide comprising a lower cladding layer (I), a core (II) and an upper cladding layer (III), wherein
10 at least one of (I), (II) and (III) is formed using the photocurable resin composition according to claim 1.

13. An optical waveguide comprising a lower cladding layer (I), a core (II) and an upper cladding layer (III), wherein
at least one of (I), (II) and (III) is formed using the
15 photocurable dry film according to claim 10.